

What is claimed is:

1. A prediction analysis apparatus, comprising:
a prediction unit predicting a result value
5 corresponding to one or more attribute values of
unknown data using known data indicating
correspondence between one or more attribute values
and corresponding result values; and
an analysis unit outputting analysis
10 information indicating how at least one attribute
value of the unknown data is to be amended to
change a result value predicted by said prediction
unit into a desired prediction value.
- 15 2. The apparatus according to claim 1, wherein
said analysis unit extracts known data having
the desired prediction value as a result value, and
having one or more attribute values similar to one
or more attribute values of the unknown data from
20 know data, and outputs the extracted known data as
the analysis information.
3. The apparatus according to claim 2, wherein
said analysis unit extracts known data similar
25 to the unknown data from the known data with an

importance factor of each attribute taken into account.

4. The apparatus according to claim 3, wherein

5 said analysis unit uses an influence factor on
a result value from each attribute obtained by
memory-based reasoning as the importance factor.

5. The apparatus according to claim 3, wherein

10 said analysis unit uses a weight obtained from
learning of a structured neural network as the
importance factor.

6. The apparatus according to claim 2, wherein

15 said analysis unit generates one piece of
known data by performing a predetermined operation
on plural pieces of known data when the plural
pieces of known data are extracted from the known
data, and outputs the generated known data.

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7. The apparatus according to claim 2, wherein

 said analysis unit outputs predetermined
pieces of known data in order from data most
similar to the unknown data in plural pieces of
25 known data when the plural pieces of known data are

extracted from the known data.

8. The apparatus according to claim 1, wherein
said analysis unit outputs at least one
5 attribute value of unknown data whose desired
prediction value is to be predicted as a result
value, or an amount of a change into the at least
one attribute value as the analysis information.

10 9. The apparatus according to claim 8, wherein
said analysis unit specifies the at least one
attribute value of unknown data whose desired
prediction value is to be predicted as a result
value, or an amount of a change into the at least
15 one attribute value through a neural network.

10. The apparatus according to claim 1, wherein
said analysis unit refers to a decision tree,
specifies a path through which the desired
20 prediction value is to be predicted as a result
value of the unknown data, extracts known data
whose result value is predicted through the
specified path, and outputs the extracted known
data as the analysis information.

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11. The apparatus according to claim 10, wherein
said analysis unit also outputs a certainty
factor in the specified path.

5 12. The apparatus according to claim 1, wherein
when a result value of unknown data is
predicted by referring to rules indicating one or
more condition units presenting a condition of the
attribute value and a result value under a
10 condition indicated by the condition units, said
analysis unit changes a condition indicated by a
condition unit in the condition units of a rule
used to predict a result value of the unknown data
in the rules so that a rule to be referenced in the
15 rules for prediction of the desired prediction
value as a result value of the unknown data, known
data whose result value can be predicted based on
the specified rule and which has a desired
prediction value as the result value can be
20 extracted, and the extracted known data can be
output as the analysis information.

13. The apparatus according to claim 1, wherein
said analysis unit sets an attribute whose
25 attribute value is to be changed in attributes of

the unknown data, and obtains the analysis information by changing the attribute value of the set attribute.

5 14. The apparatus according to claim 13, wherein
 said attribute to be changed can be set by a
 user in an interactive mode.

10 15. The apparatus according to claim 13, wherein
 said analysis unit sets the attribute to be
 changed with an importance factor of each attribute
 taken into account.

15 16. The apparatus according to claim 15, wherein
 said analysis unit uses an influence factor on
 a result value from each attribute obtained by
 memory-based reasoning as the importance factor.

20 17. The apparatus according to claim 15, wherein
 said analysis unit uses a weight obtained from
 learning of a structured neural network as the
 importance factor.

25 18. The apparatus according to claim 13, wherein
 said analysis unit sets a search range of an

attribute value of an attribute set to be changed,
and obtains the analysis information by changing an
attribute value of the attribute set to be changed
in a corresponding search range.

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19. A prediction analysis apparatus, comprising:

a prediction unit predicting a result value
corresponding to one or more attribute values of
unknown data according to predicting information
for predicting the result value; and

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an analysis unit outputting analysis
information indicating how at least one attribute
value of the unknown data is to be amended to
change a result value predicted by said prediction
unit into a desired prediction value.

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20. A computer-readable storage medium storing a
program used to direct a computer to perform the
processes of:

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predicting a result value corresponding to one
or more attribute values of unknown data using
known data indicating correspondence between one or
more attribute values and corresponding result
values; and

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outputting analysis information indicating how

at least one attribute value of the unknown data is to be amended to change a result value predicted in said predicting process into a desired prediction value.